

ARBORETUM BULLETIN
OF THE
ASSOCIATES

OCTOBER, 1935

THE
MORRIS ARBORETUM
OF THE
UNIVERSITY OF PENNSYLVANIA

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View in Japanese Garden

ARBORETUM
BULLETIN

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FOREWORD

In an institution like the Morris Arboretum several types of interest meet, and there is likely to be a variety of happenings and experiences that are worth recording for the notice of those who may find an interest in such things.

Since the major scientific work of the Arboretum finds its outlet at present in other places, there remain a number of items, frequently of a non-technical character, that are worthy of attention.

Accurate information about rare species, interesting groups of trees and shrubs, resistance or susceptibility to climatic conditions, discussions of plant diseases, their causes and possible remedies, may appeal to some plant lovers.

Different ways in which the Arboretum is serving educational purposes in connection with the University and in other less formal ways, will interest others.

Announcements of the blooming times of special trees or shrubs, something concerning persons and organizations visiting the place, and other Arboretum news, may interest some who are more intimately acquainted with the place.

The progress of various scientific projects being carried on in the grounds or in the laboratories will be more significant to some readers.

It is hoped that a periodical, of which this is the first slender number, may be welcomed by the Associates of the Arboretum and by others who may be interested in its welfare and in its doings.

RODNEY H. TRUE, *Director.*



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BEGINNINGS AT THE MORRIS ARBORETUM

THE MORRIS ARBORETUM came under the control of the University of Pennsylvania on October 18, 1932, when fall foliage effects were waning and the trees and shrubs were preparing for winter.

Since the plantings had all been made to fit the pleasure taken by tree lovers in their home grounds, the material and arrangement naturally reflected these circumstances. The gradually developing history of the place, with older plants on ground first acquired and younger plantings made as plans were extended or changed, here finds expression.

The buildings on the place reflected the same history of old and new houses, acquired as new pieces of land were added. On October 18th, the total area consisted of about 160 acres of land, made up of about 90 acres in the "Compton" area and 70 acres in the more recently acquired farm—"Bloomfield." In addition to the Mansion that was the home of Mr. and Miss Morris in the later years, were three old stone houses and four newer ones serving as homes for the families of men employed on the place. In addition was the grist mill by the Wissahickon on the site of a Colonial predecessor with a small stone blacksmith shop nearby.

Use of Buildings

THESE STRUCTURES furnished the housing facilities available for the uses to which the Arboretum was to be devoted. In addition to the housing of persons attached to the Arboretum, the needs of other phases of the work of the institution had to be considered. The Mansion was temporarily adapted to the need for office and laboratory spaces and for rooms to house the herbarium of trees and shrubs collected on the place or acquired by purchase or exchange. Here the laboratory for forest pathology was also located and equipped with adequate facilities for research. The small beginning of a library was also planned in this building, and an equipment of steel shelving provided.

A small but useful auditorium was furnished with a seating capacity for about one hundred persons. Here lectures have been given to classes coming out from the University, also to others attending lectures on a variety of horticultural and botanical subjects during the winter months.

Use of the Land

THE SOIL of the Arboretum was found by Professor Edgar T. Wherry, Ecologist to the Arboretum, to consist of two types, according to the rock from which they were mainly derived. About half the total area, all on the home grounds, is made up of soil based on a mica schist or quartzite rock and has a mildly acidic reaction. The remaining area lying to the north and west overlies the limestone forming the floor of the Whitemarsh Valley, and has a reaction almost neutral. This fortunate diversity in acidity adds much to the opportunity for growing a variety of trees and shrubs. In general, the acid-loving conifers and relatives of the laurel, the Ericaceae, will be more at home on the slopes toward Chestnut Hill, while the roses and other lime-lovers will be best suited on the more level neutral soil on the other slope and on the Farm to the westward.

It became important to provide for the future of the Arboretum by developing replacement material and young plants for use in the group plantings to be made later, in which related groups should be brought together in some botanical relationship. Accordingly, a nursery was laid out at the Farm to receive young stock as it might be developed. Later, as more young material demanding acid conditions came forward, a nursery was prepared on the more acid land near the green-houses.

Connections were made promptly with Botanical Gardens of Europe and Asia in the hope of securing seeds of plants not to be found at the Arboretum. Since the American trees and shrubs were but sparingly represented in the plantings of the Arboretum, plans were also made for bringing in the native species as time and opportunity might permit.

Public and Educational Uses

SINCE THE LARGE collection of rare and often beautiful trees and shrubs that make up the main feature of the planting at the Arboretum offers a genuine pleasure to many people and since the educational value of such a collection is a very real part of its use, the grounds were thrown open to visitors on several afternoons each week. The value and rarity of the collection has made it an important trust committed to the Arboretum management, to be properly safeguarded through the operation of a minimum number of common-sense rules.

On two occasions each year the Arboretum has been opened all day for a Spring Saturday and successive Sunday, at such a time as seems likely to show the best floral effects, and again in the Fall for a similar period, chosen with reference to foliage effect.

In May, the women of the University have their May Day Frolic, with the crowning of the Queen and the giving of a play at the Arboretum, with several thousand visitors on the grounds.

The usual number of visitors during the Spring and Summer months has been about 300 a month.

Lecture Course

A LECTURE COURSE of five lectures dealing with a group of related subjects of interest to plant growers has been given in the auditorium on the second Saturday of December, January, February, March and April. Speakers well known for their knowledge and experience in the subjects dealt with have been obtained and they have spoken to appreciative audiences.

Labeling of Collection

SINCE MANY VISITORS who come to the Arboretum give some careful attention to the plants and wish to know their names, durable lead labels similar to the type used in the Royal Botanical Gardens at Kew, England, have been made and are either attached to the trees or set in the ground near them. The label gives the botanical name, the common name in case such is known in the English language, and the geographical source of the plant. Since the botanical identity of all plants has not yet been clearly established, and since common names in English have not yet come into use for all of these foreign plants, some of these features may not appear on the label. A further study of the flora of China and Japan may in time remedy the first deficiency.

Distribution of Seeds and Plants

IT NOT infrequently happens that a high percentage of germination of seeds, or good fortune with cuttings, yields a larger number of plants of given species than the Arboretum needs demand. Accordingly, these have been offered to the Associates in limited quantities for the purpose of securing wider distribution and broader information regarding their behavior in this region. These are regarded essentially as experimental plantings, oftentimes involving plants of which little is known. Some of the Rhododendrons grown from seeds collected by Dr. Joseph F.

Rock in Tibet and China illustrate this class. Sometimes less known plants found to be of interest in the Arboretum are propagated by seed or cuttings from plants growing there. The Chinese tree, *Evodia*, illustrates this type of plant.

The list of seeds offered to Associates last Spring, and still in part available, includes 82 species and varieties, many of them being Asian in origin, some European, and a few native. Some of them are well-known deciduous ornamental types like *Clematis viticella* L., *Kolkwitzia amabilis*, L., the well-known beauty bush, *Sambucus* of several types, and the sorrel tree, *Oxydendron arboreum* D.C. Several types of evergreens are also listed—*Chamaecyparis nootkatensis*, the nootka cypress, *Kalmia latifolia*, the mountain laurel, *Thuja occidentalis*, the white cedar, and *Tsuga canadensis*, the common hemlock, being among the number. By far the greater part of the list consists of less well-known plants, some of which are in an experimental stage here. Most of the seeds were collected at the Arboretum.

The list of plants in pots or in the nurseries offered to the Associates includes 95 species and varieties. Here, again, the material is largely of foreign origin, and familiar sorts are included. Among these are three types of Boxwood, four of Asian *Cornus* species, four *Deutzias*, four *Hypericums*, six *Ligustrums*, privets, sixteen *Loniceras*, honeysuckles, interesting not only for their flowers, but also for their fruits that are very much appreciated by the birds that haunt the Arboretum, eight *Philadelphus* types from a very large collection growing at the Arboretum, nine *Poplars* of a rapidly growing type developed for commercial purposes, three *Symphoricarpus* sorts, coral berries or snow berries, and many other species and varieties. Among these some deserve special mention. The Asiatic tree, *Evodia Daniellii*, from Northern China and Korea, may be noted. It is a small tree bearing compound leaves and corymbs, five to eight inches across, of small whitish flowers. Thus far it has suffered but minor injury by the frost of the past severe winters at the Arboretum and seems likely to be worth a trial.

The Rock Rhododendrons, now available in pots, are in the early experimental stage. Some are likely to be hardy here, and others are quite likely to be plants for greenhouse culture. The great variety of characters seen in this group seems to suggest considerable possible value for hybridization purposes.

A number of seedlings of the Chinese small-leaved elm, *Ulmus parvifolia* Jacq., are likely to be interesting in time. At the Arboretum this tree has almost semi-evergreen characteristics and is thoroughly hardy. It is reported, however, to be susceptible to the so-called Dutch Elm Disease.

Many of the plants listed are in the nursery ready for transfer as soon as dormant.

ARBORETUM NEWS

Mr. Sinkler's Gift of Insectivorous and Tropical Plants

THE REMARKABLE COLLECTION of plants brought together by Mr. Louis Burk at his home in Latham Park has attracted the attention of plant lovers and plant students who have visited the annual Philadelphia Flower Shows of past years. One of the most striking novelties of Mr. Burk's more recent exhibits has been a very complete collection of our native insectivorous plants. The bizarre forms of these plants and their exceptional nutritional habits have singled them out as one of the most remarkable groups of specialized plants that we have.

With the regrettable passing of Mr. Burk, the collection of insectivorous plants was offered for sale. Fortunately for the Arboretum and for the University of Pennsylvania, an interested alumnus of the University, Mr. Wharton Sinkler (U.P. '06), purchased this entire collection and presented it to the Arboretum, where it can be seen by interested visitors. This collection consists of 159 plants, of which 127 are native American pitcher plants. The collection includes several hybrids, as well as native species.

Mr. Sinkler also purchased and presented to the Arboretum the Burk collection of 62 Bromeliaceae made up of 30 species and hybrids. These epiphytic plants grow on the branches of trees in the moist tropics, where they catch water in their pitcher-like leaf bases and develop many striking and beautiful types of vegetation far above the ground.

Mr. Burk also had made a rare collection of Anthuriums in which he developed a group of unique hybrids. Mr. Sinkler included this collection of 29 plants in his splendid gift.

A group of 69 tropical foliage and flowering plants from several natural groups, including many types rare now both in private and in commercial collections, including a specimen of the rarest of the stag horn ferns, the great *Platycerium grande*, and other notable species, were included in Mr. Sinkler's gift, now open for inspection in the greenhouses of the Arboretum.

Colonel Robert H. Montgomery's Gift of Evergreens

THROUGH THE GOOD offices of Mr. Maurice Bower Saul, one of the members of the Advisory Board of the Arboretum, Colonel Robert H. Montgomery, of New York City, recently presented to the Arboretum a splendid shipment of evergreens from his Cos Cob nurseries. In the carload sent are nearly 2000 trees of different sizes, representing over 215 species and varieties. Among the number are many rare and beautiful types. These trees have been planted in the new nursery below the greenhouses, where they add greatly to the interest of the place for tree lovers and tree experts. As the trees reach sufficient size, they will form parts of the several conifer groups to be planted in the sections of the Arboretum devoted to those trees. Some of doubtful hardiness will be given the treatment made necessary by this fact. Through the bounty of Colonel Montgomery, the Arboretum thus becomes the possessor of one of the most complete collections of varieties of conifers in this country.

WINTER LECTURE COURSE

DURING THE PAST two winters, a course of lectures on subjects of interest to plant growers has been given in the small auditorium at the Arboretum. The subjects dealt with have been important groups of ornamentals discussed by persons recognized as authorities in these groups.

During the coming winter the general line of subjects to be dealt with concern important pathological problems of woody plants. Lecturers have been secured who have themselves carried on important researches in the problems they discuss.

The winter's program is as follows:

December 14, 1935

DR. CURTIS MAY

The Dutch Elm Disease.

Dr. May is in charge of the laboratory investigations now being carried on by the United States Department of Agriculture at Morristown, N. J.

January 11, 1936

DR. L. W. R. JACKSON

The Diseases of Plane Trees.

Dr. Jackson is in charge of the pathological investigations in the Forest Experimental Station of the United States, co-operating with the University of Pennsylvania.

February 8, 1936

DR. HARLAN H. YORK

Diseases of the Himalayan Pine and Other Ornamental Conifers.

Professor York is the head of the laboratory of Forest Pathology, University of Pennsylvania, and Pathologist to the Arboretum.

March 14, 1936

MR. HENRY TEUSCHER

Winter Injury and Hardiness.

Mr. Teuscher is Dendrologist at the New York Botanical Garden.

April 11, 1936

DR. WILLIAM CROCKER

Injury Caused by Illuminating Gas.

Dr. Crocker is Director of the Boyce Thompson Institute for Plant Research at Yonkers, New York, and is an eminent investigator and authority on this subject.

These lectures will present the results of much specialized scientific research and will apply these results to practical problems.

Lectures come on the second Saturday of each month.

